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TECHNICAL REPORT
NATICK/TR-79/042

# USAF FOOD HABITS STUDY: PART II, FOOD PREFERENCES OF WHITES AND BLACKS AND MALES AND FEMALES

by
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| FOOD PREFERENCES | CAUCASIANS | AIR FORCE |
| FOOD HABITS | NEGROES | MILITARY PERSONNEL MENUS |
| MALES | WHITE PERSONNEL | FOOD ACCEPTANCE DATA |
| FEMALES | BLACK PERSONNEL | |

20. ABSTRACT *(Continue on reverse side if necessary and identify by block number)*

A study at Travis AFB was undertaken to provide Air Force food service personnel with minority food preferences and weight gain information. White males, white females, black males, and black females were administered a new Food Preference Survey as well as other materials. All demographic groups ranked several common foods among the 10 most preferred, as, for example, orange juice and tossed green salad. Females ranked tossed green salad as the most preferred food while white males ranked grilled steak as the most preferred food and black males, orange juice as the most preferred food. Blacks in general expressed a greater

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20. Abstract (cont'd)

preference for more foods than did whites and more preference differences were attributable to race-ethnic background than to sex group membership. White respondents tended to prefer soups, stews, and puddings more than did blacks, and blacks preferred fruit drinks and juices, meats, cereals, green vegetables, and fresh and canned fruits more than did whites. Males preferred beer, eggs, meats, short order, and pies more than did females, and females preferred appetizers potatoes, vegetables, salads, and fruits more than did males. White respondents indicated a greater preference for American, Italian, and Mexican foods while black respondents indicated a greater preference for soul and southern foods. But while blacks in general indicated much greater preferences for soul and southern foods, only 5 of these foods were high preference foods, such as barbecued spareribs. Seafood was a high preference food for all groups. Black females indicated a greater preference for foods having high fat content than did white females. The current AF menu was never regarded by the majority of respondents as "OK as is." Current results tended to replicate previous findings.

## Acknowledgements

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Special acknowledgement and thanks are extended to Mr. Peter Priori, whose support and enthusiastic assistance in the analysis of the data made this report possible.

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## THE USAF FOOD HABITS STUDY: Part II, Food Preferences of White and Blacks and Males and Females

### Introduction

The present report is the second in a series of three on selected food habits of United States Air Force personnel. The report focuses on the food preferences of the four major subpopulations – white males (WM), white females (WF), black males (BM), and black females (BF) – for 193 food items. Preferences were assessed using a 9-point hedonic scale that allows the respondent to indicate how much he likes a food.[1,2] The first report is focused on method and an overview of the study; a third report is concerned with body weight gain and the food preferences of the overweight.[3,4] A fourth report focusing on food selection and portion size is anticipated.

The primary justification for the study of food preferences is menu planning. Knowledge of preferences for specific food items assists food service personnel in the construction of menus. But there was also interest in establishing preference differences for foods containing high amounts of fat, preference differences for food categories, and for styles of cooking. Thirty-one food categories, as, for example, breakfast meats and vegetable salads, and 8 styles of cooking, such as Italian and soul, were used. Finally, the data was analized to determine the number of preference differences due to race-ethnic background and to sex group membership, and to establish whether a greater number of foods were preferred more by one group than by another. Thus we were interested in answering questions like "Can a greater number of preference differences be attributed to race than sex?" and "Do females avow a greater preference for more foods than males?"

[1]D. R. Peryam, B. W. Kamin, J. M. Kamin, J. Eindhoven, and F. J. Pilgrim. Food preferences of men in the Armed Forces. Quartermaster Food and Container Institute for the Armed Forces, Chicago, Illinois, 1960.

[2]H. R. Moskowitz, T. L. Nichols, H. L. Meiselman, and J. L. Sidel. Food preferences of military men, 1967. US Army Natick Laboratories Technical Report, 72–70–PR, May 1972.

[3]K. W. Wyant, H. L. Meiselman, and D. Waterman. The USAF food habits study: Part I, method and overview. US Army Natick Research and Development Command Technical Report, NATICK/TR–79/041, 1979.

[4]K. W. Wyant and H. L. Meiselman. The USAF food habits study: Part III, weight gain and food preferences of the overweight. US Army Natick Research and Development Command Technical Report, NATICK/TR–79/042, 1979.

The preferences of blacks and whites were also surveyed in an earlier study by Meiselman (1977).[5] The survey used in the present study was a shortened version of the one used in the Meiselman study and therefore contains a number of the same foods. In the Meiselman study, black preferences were differentiated from the food preferences of southerners, both black and white so that preferences unique to minority groups could be identified. A southerner was defined as a person who was raised in one of 11 southern states, and four groups were formed – black southerners, black northerners, white northerners, and white southerners. The criteria for a black food preference were threefold. The hedonic and frequency ratings of black southerners had to be significantly different from those of white southerners; the ratings of northern blacks had to be different from those of northern whites; and the ratings of blacks overall had to be different from the overall white rating. The analysis enabled a conservative listing of preferences that excluded those black food preferences which were limited to either the north or south or which were marginal and failed to reach statistical significance three times. Results indicated, for example, that blacks preferred a number of fruit drinks and juices more than did whites. The hedonic ratings of 33 food classes were also analyzed in the study. Italian and Mexican foods, for example, were preferred more by the white respondents than by the black respondents.

Finally, a number of studies reported finding male-female preference differences.[6,7,8] These studies, while not always reporting statistical significance and while sometimes failing to find differences, tend to indicate consistent preference differences. Thus, for example, women frequently report a greater preference than do men for vegetables and fruit.

[5] H. L. Meiselman. The role of sweetness in the food preferences of young adults. In James M. Weiffenbach (Ed.), National Institute of Dental Research, DHEW Publication No. (NIH) 77–1068, U.S. Department of Health, Education, and Welfare, National Institutes of Health, Maryland, 1977.

[6] E. S. Eppright. Food habits and preferences: A study of Iowa people of two age groups. Iowa Agricultural Experimental Station, Iowa State College, Bulletin No. 376, December 1950.

[7] B. M. Kennedy. Food preferences of college women. **Journel of the American Dietetic Association**, 1958, **34**, 501–506.

[8] M. A. Einstein and I. Hornstein. Food preferences of college students and nutritional implications. **Journal of Food Science**, 1970, **35**, 429–436.

## Method

The method is explained in detail in an earlier report (Wyant, et al., 1979).[9] Of a total sample of 710 respondents, 653 reported their race-ethnic background as being either Caucasian-White or Negro-Black, and of these 35.2% were WM, 32.3% WF, 20.7% BM, and 11.8% BF. A new form of the Food Preference Survey which contains 21 demographic questions and lists 193 different foods was used. Demographic questions that were relevant to the present report were about race, sex, preferred specialty foods, and desired menu changes. Preferences for the 193 food items were indicated on a 9-point scale ranging from **like extremely** to **dislike extremely**. Respondent were administered the survey in groups of about 80.

The analysis was performed in 5 steps. First, preference ratings were ranked ordered by decreasing hedonic mean per WM, WF, BM, BF, and all respondents. The sample consisted of all respondents who participated in the study. Second, preference ratings for each item were subjected to a 2 (either white or black) by 2 (either male or female) analysis of variance, and Tukey's test was performed and eta values were found whenever appropriate. Eta indexes the strength of association between preference ratings and a factor; the larger the eta value, the stronger the relationship. The analyses of variance were based upon samples of approximately equal size and therefore were not based upon all respondents who participated in the study. A second set of analyses was based upon groups consisting of all eligible respondents. Third, foods were grouped into 31 menu categories, and an average score for each category was found for each respondent. This data was also subjected to 2 by 2 analyses of variance. A number of foods which had not been tried by very many of the respondents were omitted from the analyses. An average score was also found for 36 foods each containing high amounts of fat, and the analysis of variance test was performed. Fourth, scores for the 31 food categories were entered into several discriminant analyses. Categories were used first, to discriminate among WM, WF, BM, and BF, second, to discriminate between white and black respondents, and third, to discriminate between males and females. Fifth, a number of chi square tests were used to establish preferences for types of cooking and desired menu changes.

## Results

### Ten Most Preferred Foods

Presented in Table 1 are the mean preference ratings of the ten most preferred foods, as measured by the FPS, for each of the subpopulations. Of these foods, only two, orange juice and milk, were ranked among the ten most preferred foods by all four groups. Four of the 193 foods, however, were high preference foods of at least three groups.

[9] See footnote 1.

## Table 1

Rank Order by Decreasing Mean Preference Rating and Mean Preference Rating of Each of the Ten Most Preferred Foods for All Respondents, WM, WF, BM, and BF.

### All Respondents

| ID | Food Name | Rank | Mean Preference Rating |
|---|---|---|---|
| 182 | Grilled Steak | 1 | 7.94 |
| 198 | Orange Juice | 2 | 7.88 |
| 126 | Milk | 3 | 7.86 |
| 39 | Tossed Green Salad | 4 | 7.67 |
| 52 | Peaches (Fresh) | 5 | 7.55 |
| 23 | Ice Cream | 6 | 7.54 |
| 115 | Oranges | 7 | 7.53 |
| 161 | Buttered Whole Kernel Corn | 8 | 7.52 |
| 181 | Watermelon | 9 | 7.49 |
| 84 | Fried Shrimp | 10.5 | 7.44 |
| 45 | Fried Chicken | 10.5 | 7.44 |

Table 1 (continued)

White Males

| ID | Food Name | Rank | Mean Preference Rating |
|---|---|---|---|
| 182 | Grilled Steak | 1 | 8.32 |
| 126 | Milk | 2 | 8.19 |
| 198 | Orange Juice | 3 | 7.83 |
| 105 | Roast Beef | 4 | 7.57 |
| 39 | Tossed Green Salad | 5 | 7.46 |
| 84 | Fried Shrimp | 6.5 | 7.45 |
| 161 | Buttered Whole Kernel Corn | 6.5 | 7.45 |
| 110 | Milk Shake | 8 | 7.44 |
| 143 | French Fried Potatoes | 9 | 7.43 |
| 68 | Ham | 10 | 7.41 |

White Females

| ID | Food Name | Rank | Mean Preference Rating |
|---|---|---|---|
| 39 | Tossed Green Salad | 1 | 8.13 |
| 182 | Grilled Steak | 2 | 7.77 |
| 198 | Orange Juice | 3 | 7.71 |
| 126 | Milk | 4 | 7.67 |
| 161 | Buttered Whole Kernel Corn | 5 | 7.64 |
| 105 | Roast Beef | 6 | 7.54 |
| 52 | Peaches (Fresh) | 7 | 7.53 |
| 133 | Spaghetti with Meatballs | 8 | 7.51 |
| 115 | Oranges | 9.5 | 7.48 |
| 181 | Watermelon | 9.5 | 7.48 |

Table 1 (continued)

Black Males

| ID | Food Name | Rank | Mean Preference Rating |
|---|---|---|---|
| 198 | Orange Juice | 1 | 8.10 |
| 61 | Sweet Potato Pie | 2 | 8.03 |
| 182 | Grilled Steak | 3 | 7.97 |
| 45 | Fried Chicken | 4 | 7.95 |
| 137 | Barbecued Spareribs | 5 | 7.86 |
| 23 | Ice Cream | 6 | 7.75 |
| 84 | Fried Shrimp | 7 | 7.70 |
| 96 | Lemonade | 8 | 7.63 |
| 126 | Milk | 9 | 7.58 |
| 52 | Peaches (Fresh) | 10 | 7.55 |

Black Females

| ID | Food Name | Rank | Mean Preference Rating |
|---|---|---|---|
| 39 | Tossed Green Salad | 1 | 8.11 |
| 52 | Peaches (Fresh) | 2 | 8.06 |
| 115 | Oranges | 3 | 8.05 |
| 198 | Orange Juice | 4 | 7.96 |
| 126 | Milk | 5 | 7.91 |
| 96 | Lemonade | 6.5 | 7.89 |
| 137 | Barbecued Spareribs | 6.5 | 7.89 |
| 161 | Buttered Whole Kernel Corn | 8 | 7.85 |
| 183 | Baked Macaroni and Cheese | 9 | 7.82 |
| 23 | Ice Cream | 10 | 7.79 |

Tossed green salad and buttered whole kernel corn were highly preferred by all groups except BM. Tossed green salad was ranked number one by both WF and BF. Grilled steak was ranked among the ten most preferred by all groups except BF, and received the highest mean rating over all respondents. Finally, fresh peaches were ranked among the ten most preferred foods by all groups except WM. Some foods were preferred by only a single group, as, for example, milk shakes, french fried potatoes, and ham were highly preferred by WM only, and sweet potato pie and fried chicken were highly preferred by BM only.

**Preference Differences for Individual Food Items**

The results of the analyses of variance for the 86 food items for which we obtained significant differences are presented in Table 2. Differences associated with either race or sex are indicated by eta values given in the columns headed with MAIN EFFECTS. Eta squared is a measure of the strength of association and is interpreted as the proportion of variance, or the amount of difference, in the preference ratings that can be attributed to the factor, either race or sex, in question. Larger numbers indicate stronger relationships. Given in the columns WM, WF, BM, and BF are mean preference ratings for those groups, respectively. By examining the differences among groups, the group that preferred a food most can be determined. Statistically significant preference differences between any two groups of the six possible two-group pairs are indicated by asterisks in the last six columns.

Table 3 provides the 35 food items for which the strengths of association were 0.20 or greater and indicates the racial or sex group that tended to prefer the food the most. It therefore provides a closer look at some of the more noteworthy results. Notice that many of the foods that strongly differentiate between the races may be regarded as either soul or southern foods but only 5 of the foods – barbecued spareribs, fried chicken, cornbread, sweet potato pie, and collard greens – ranked among the 20 foods most preferred by blacks.

**Foods Containing Fat**

Results of the analyses of variance for food items judged to contain high amounts of fat, primarily animal fat, are presented in Table 4. Note that the values given in the two columns headed by Main Effects are eta values and indicate a significant effect for the factor in question; letters in these columns indicate which group, either White (W) or Black (B), or either Male (M) or Female (F), preferred the food the most. Values in the column headed by **Interaction** are levels of significance, and letters indicate by which group, either WM, WF, BM, or BF, the food was preferred the most. The preference ratings for these 36 foods were also averaged for each respondent. Means and standard deviations are given in Table 5. An analysis of variance performed on this data revealed a significant interaction ($F$ (1,276) = 5.02, $p$ = .023). Tukey's test performed on the means indicated that, in general, fatty foods were preferred more by BF than WF. White males and BM did not differ significantly from either WF or BF, but WM indicated a

## Table 2

### Analysis of Variance for Each of 86 Foods

Given in Table 2 first by race and then by sex are the results of the analyses of variance for the 86 food items for which significant differences were found. Food items are ranked by overall decreasing hedonic mean. Given for each food item, in the eight columns following the food name and identification number, is the mean preference rating and the rank of the mean rating for each subpopulation. Preference differences are indicated in the following two columns by eta, a measure of the strength of association between a factor, either race-ethnic background or sex group membership, and the preference ratings. Larger values of eta indicate stronger relationships. An asterisk in the column headed IN indicates an interaction was obtained between race-ethnic background and sex group membership. An asterisk in one of the last six columns indicates a significant preference difference was obtained between the two groups indicated by the heading of the column in which the asterisk is found. All indicated differences were significant at or below the .05 level. All values are based upon the responses of subjects that were drawn from the four subgroups in order to create approximately equal group sizes. As a consequence tabled values will not correspond exactly to values based upon all respondents.

**Table 2 Analysis of Variance for Each of 86 Foods**

PREFERENCES OF WHITES

| RANK | FOOD NAME | ID | MEAN HEDONICS AND RANKS | | | | | | | | MAIN EFFECTS IN | | TUKEY'S TEST | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | WM | RANK | WF | RANK | BM | RANK | BF | RANK | RACE | SEX | WMWF | WMBM | WMBF | WFBM | WFBF | BMBF |
| ENTREE PREFERENCES | | | | | | | | | | | | | | | | | | |
| 14.5 | ROAST BEEF | 105 | 7.83 | 3.0 | 7.70 | 6.0 | 7.12 | 34.0 | 7.09 | 55.0 | .19 | | --- | --- | -*- | -*- | -*- | -*- | --- |
| 54.0 | ROAST TURKEY | 2 | 7.34 | 30.5 | 7.28 | 21.0 | 6.42 | 96.5 | 6.64 | 86.0 | .21 | | --- | --- | -*- | -*- | -*- | -*- | --- |
| 71.5 | HOT TURKEY SANDWICH WITH GRAVY | 6 | 7.13 | 50.0 | 6.93 | 50.5 | 6.48 | 87.5 | 6.57 | 92.5 | .13 | | --- | --- | -*- | --- | --- | --- | --- |
| 101.0 | ROAST PORK | 80 | 6.71 | 81.0 | 6.71 | 67.0 | 6.14 | 112.0 | 6.08 | 125.0 | .13 | | --- | --- | --- | --- | --- | --- | --- |
| 108.5 | VEAL PARMESAN | 43 | 6.85 | 71.5 | 6.48 | 94.0 | 5.86 | 134.0 | 5.75 | 140.0 | .19 | | --- | --- | -*- | -*- | --- | --- | --- |
| 53.0 | LASAGNA | 32 | 7.12 | 53.0 | 7.38 | 16.5 | 6.64 | 72.0 | 6.61 | 89.0 | .15 | | --- | --- | --- | --- | -*- | -*- | --- |
| 16.0 | PIZZA | 21 | 7.67 | 8.5 | 7.80 | 3.0 | 6.93 | 49.5 | 7.26 | 37.0 | .18 | | --- | --- | -*- | --- | -*- | --- | --- |
| 58.5 | TACOS | 87 | 7.22 | 42.5 | 7.06 | 39.0 | 6.63 | 73.0 | 6.48 | 98.0 | .14 | | --- | --- | --- | -*- | --- | --- | --- |
| 101.0 | BURRITOS | 75 | 6.82 | 75.0 | 6.66 | 74.0 | 6.39 | 99.5 | 5.70 | 144.5 | .15 | | --- | --- | --- | -*- | --- | -*- | --- |
| 135.5 | PEANUT BUTTER & JELLY SANDWICH | 173 | 6.42 | 100.5 | 6.03 | 124.5 | 5.44 | 150.0 | 5.57 | 150.0 | .14 | | --- | --- | -*- | -*- | --- | --- | --- |



PREFERENCES OF WHITES

| RANK | FOOD NAME | ID | MEAN HEDONICS AND RANKS | | | | | | | | MAIN EFFECTS IN | | TUKEY'S TEST | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | WM | RANK | WF | RANK | BM | RANK | BF | RANK | RACE | SEX | WMWF | WMBM | WMBF | WFBM | WFBF | BMBF |
| STARCH AND VEGETABLE PREFERENCES | | | | | | | | | | | | | | | | | | |
| 47.0 | MASHED POTATOES | 174 | 7.33 | 32.0 | 7.25 | 23.0 | 6.66 | 70.0 | 6.91 | 61.5 | .14 | | --- | --- | -*- | --- | -*- | --- | --- |
| 164.5 | LENTILS | 47 | 5.29 | 151.0 | 6.31 | 92.5 | 4.30 | 193.0 | 4.18 | 186.0 | .31 | | --- | --- | --- | --- | -*- | -*- | --- |
| 179.0 | BAKED YELLOW SQUASH | 41 | 4.81 | 170.0 | 5.92 | 120.0 | 4.43 | 189.5 | 3.92 | 192.0 | .21 | | --- | --- | --- | --- | -*- | -*- | --- |
| 151.0 | MUSHROOMS | 49 | 5.75 | 126.0 | 6.37 | 86.0 | 4.70 | 182.5 | 4.21 | 184.0 | .27 | | --- | --- | --- | --- | -*- | -*- | --- |

PREFERENCES OF WHITES **Table 2 (Continued)**

| RANK | FOOD NAME | ID | MEAN HEDONICS AND RANKS | | | | | | | | MAIN EFFECTS IN | TUKEY'S TEST | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | WM | RANK | WF | RANK | BM | RANK | BF | RANK | RACE SEX | WMWF | WMBM | WMBF | WFBM | WFBF | BMBF |
| DESSERT PREFERENCES | | | | | | | | | | | | | | | | | |
| 56.0 | BROWNIES | 194 | 7.27 | 34.0 | 7.44 | 15.0 | 6.42 | 96.5 | 6.46 | 101.5 | .22 | --- | --- | -*- | -*- | -*- | -*- | --- |
| 18.0 | APPLE PIE | 195 | 7.70 | 6.5 | 7.55 | 12.0 | 7.29 | 17.0 | 6.89 | 64.5 | .15 | --- | --- | --- | -*- | --- | -*- | --- |
| 85.5 | CHERRY PIE | 150 | 7.24 | 39.0 | 6.51 | 89.0 | 6.38 | 102.0 | 6.19 | 116.0 | .13 | --- | -*- | -*- | -*- | --- | --- | --- |
| 55.0 | HOT FUDGE SUNDAE | 28 | 7.43 | 22.5 | 7.09 | 38.0 | 6.44 | 93.5 | 6.62 | 87.5 | .16 | --- | --- | -*- | -*- | --- | --- | --- |
| 115.0 | CHOCOLATE PUDDING | 122 | 6.87 | 69.0 | 6.30 | 104.5 | 5.49 | 148.0 | 5.69 | 146.0 | .20 | --- | --- | -*- | -*- | -*- | --- | --- |
| 152.0 | RICE PUDDING | 37 | 5.60 | 148.5 | 6.05 | 122.0 | 5.42 | 153.0 | 4.83 | 174.0 | .13 | --- | --- | --- | --- | --- | -*- | --- |



PREFERENCES OF WHITES

| RANK | FOOD NAME | ID | MEAN HEDONICS AND RANKS | | | | | | | | MAIN EFFECTS IN | TUKEY'S TEST | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | WM | RANK | WF | RANK | BM | RANK | BF | RANK | RACE SEX | WMWF | WMBM | WMBF | WFBM | WFBF | BMBF |
| OTHER PREFERENCES | | | | | | | | | | | | | | | | | |
| 44.0 | DOUGHNUTS | 193 | 7.24 | 39.0 | 7.36 | 18.0 | 6.75 | 63.0 | 6.91 | 61.5 | .13 | --- | --- | --- | --- | -*- | --- | --- |
| 134.0 | TOMATO SOUP | 140 | 6.22 | 107.0 | 6.12 | 118.0 | 5.38 | 156.5 | 5.75 | 140.0 | .13 | --- | --- | -*- | --- | --- | --- | --- |
| 157.5 | TOMATO JUICE | 178 | 5.97 | 125.5 | 5.57 | 143.0 | 5.00 | 167.0 | 4.85 | 173.0 | .15 | --- | --- | -*- | -*- | --- | --- | --- |

PREFERENCES OF BLACKS **Table 2 (Continued)**

| RANK | FOOD NAME | ID | MEAN HEDONICS AND RANKS | | | | | | | | MAIN EFFECTS IN | TUKEY'S TEST | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | WM | RANK | WF | RANK | BM | RANK | BF | RANK | RACE SEX | WMWF | WMBM | WMBF | WFBM | WFBF | BMBF |
| BEVERAGE PREFERENCES | | | | | | | | | | | | | | | | | |
| 3.0 | ORANGE JUICE | 198 | 7.67 | 8.5 | 7.56 | 10.5 | 8.06 | 1.0 | 7.97 | 8.5 | .12 | --- | --- | --- | --- | -*- | --- | --- |
| 105.0 | PINEAPPLE JUICE | 164 | 5.62 | 146.0 | 6.08 | 119.0 | 6.94 | 46.5 | 6.70 | 79.0 | .22 | --- | --- | -*- | -*- | -*- | --- | --- |
| 174.0 | CRANBERRY JUICE | 168 | 4.50 | 179.0 | 4.32 | 183.5 | 5.73 | 146.0 | 5.28 | 152.5 | .20 | --- | --- | -*- | --- | -*- | --- | --- |
| 196.0 | PRUNE JUICE | 192 | 3.27 | 196.0 | 2.80 | 197.0 | 3.97 | 196.0 | 5.21 | 157.0 | .29 | -*- | --- | --- | -*- | -*- | -*- | -*- |
| 11.0 | LEMONADE | 95 | 7.26 | 35.5 | 7.23 | 26.5 | 7.51 | 11.0 | 8.00 | 5.0 | .16 | --- | --- | --- | -*- | --- | -*- | --- |
| 190.0 | INSTANT COFFEE | 200 | 4.57 | 181.5 | 3.50 | 193.0 | 4.57 | 180.5 | 4.92 | 171.0 | .12 | -*- | -*- | --- | --- | -*- | -*- | --- |
| 199.0 | BUTTERMILK | 64 | 3.13 | 198.0 | 2.22 | 200.0 | 3.71 | 196.0 | 3.67 | 198.0 | .19 | --- | -*- | --- | --- | -*- | -*- | --- |



PREFERENCES OF BLACKS

| RANK | FOOD NAME | ID | MEAN HEDONICS AND RANKS | | | | | | | | MAIN EFFECTS IN | TUKEY'S TEST | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | WM | RANK | WF | RANK | BM | RANK | BF | RANK | RACE SEX | WMWF | WMBM | WMBF | WFBM | WFBF | BMBF |
| BREAD AND CEREAL PREFERENCES | | | | | | | | | | | | | | | | | |
| 37.0 | CORNBREAD | 154 | 6.54 | 96.0 | 6.49 | 92.5 | 7.74 | 6.0 | 7.73 | 14.0 | .30 | --- | --- | -*- | -*- | -*- | -*- | --- |
| 50.0 | SWEET ROLLS | 56 | 7.01 | 57.0 | 6.52 | 87.5 | 7.21 | 28.5 | 7.20 | 47.5 | .12 | --- | --- | --- | --- | -*- | -*- | --- |
| 96.0 | COLD CEREAL | 166 | 6.16 | 112.5 | 6.24 | 109.5 | 6.61 | 76.0 | 6.84 | 74.5 | .12 | --- | --- | --- | --- | --- | --- | --- |
| 117.5 | GRITS | 196 | 5.21 | 161.0 | 4.96 | 166.5 | 6.85 | 55.5 | 6.66 | 83.5 | .30 | --- | --- | -*- | -*- | -*- | -*- | --- |

PREFERENCES OF BLACKS **Table 2 (Continued)**

| RANK | FOOD NAME | ID | MEAN HEDONICS AND RANKS | | | | | | | | MAIN EFFECTS IN | TUKEY'S TEST | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | WM | RANK | WF | RANK | BM | RANK | BF | RANK | RACE SEX | WMWF | WMBM | WMBF | WFBM | WFBF | BMBF |
| ENTREE PREFERENCES | | | | | | | | | | | | | | | | | |
| 6.0 | FRIED CHICKEN | 45 | 7.39 | 27.0 | 7.19 | 29.5 | 7.97 | 4.0 | 7.97 | 8.5 | .22 | --- | --- | -*- | -*- | -*- | -*- | --- |
| 7.5 | BARBECUED SPARERIBS | 137 | 7.37 | 29.0 | 7.04 | 41.0 | 7.94 | 5.0 | 8.09 | 2.5 | .21 | --- | --- | --- | -*- | -*- | -*- | --- |
| 147.0 | PORK HOCKS | 142 | 4.68 | 179.0 | 4.23 | 189.0 | 6.07 | 119.5 | 6.37 | 107.0 | .31 | --- | --- | -*- | -*- | -*- | -*- | --- |
| 151.0 | CHITTERLINGS | 30 | 3.48 | 195.0 | 3.59 | 192.0 | 6.29 | 104.0 | 6.27 | 110.0 | .38 | --- | --- | -*- | -*- | -*- | -*- | --- |
| 171.0 | BRAISED LIVER WITH ONIONS | 8 | 4.10 | 190.0 | 4.50 | 180.0 | 5.63 | 144.0 | 6.16 | 118.5 | .26 | --- | --- | -*- | -*- | -*- | -*- | --- |
| 179.0 | BOILED PIGS' FEET | 5 | 3.24 | 197.0 | 2.25 | 199.0 | 6.08 | 117.0 | 5.77 | 138.0 | .49 | --- | -*- | -*- | -*- | -*- | -*- | --- |
| 143.0 | STUFFED GREEN PEPPERS | 44 | 5.18 | 166.0 | 5.45 | 150.0 | 5.95 | 125.5 | 6.26 | 111.0 | .15 | --- | --- | --- | -*- | --- | --- | --- |
| 64.5 | TUNA SALAD SANDWICH | 147 | 6.38 | 103.0 | 6.74 | 65.5 | 6.93 | 49.5 | 7.19 | 49.5 | .12 | --- | --- | --- | -*- | --- | --- | --- |



PREFERENCES OF BLACKS

| RANK | FOOD NAME | ID | MEAN HEDONICS AND RANKS | | | | | | | | MAIN EFFECTS IN | TUKEY'S TEST | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | WM | RANK | WF | RANK | BM | RANK | BF | RANK | RACE SEX | WMWF | WMBM | WMBF | WFBM | WFBF | BMBF |
| FRUIT PREFERENCES | | | | | | | | | | | | | | | | | |
| 14.5 | ORANGES | 115 | 7.04 | 56.0 | 7.14 | 34.0 | 7.45 | 12.0 | 8.10 | 1.0 | .19 | --- | --- | --- | -*- | --- | -*- | -*- |
| 110.0 | GRAPEFRUIT HALF (FRESH) | 83 | 5.80 | 134.0 | 5.70 | 136.5 | 6.18 | 109.0 | 7.36 | 32.0 | .20 | -*- | --- | --- | -*- | --- | -*- | -*- |
| 71.5 | FRUIT COCKTAIL (CANNED) | 185 | 6.65 | 91.0 | 6.00 | 127.5 | 7.08 | 36.0 | 7.40 | 31.0 | .22 | -*- | --- | --- | -*- | -*- | -*- | --- |
| 76.0 | PEACHES (CANNED) | 91 | 6.40 | 102.0 | 6.30 | 104.5 | 7.04 | 39.0 | 7.27 | 35.5 | .20 | --- | --- | -*- | -*- | -*- | -*- | --- |
| 192.0 | STEWED PRUNES (CANNED) | 167 | 3.33 | 195.0 | 2.97 | 194.0 | 5.15 | 169.0 | 5.77 | 129.0 | .41 | --- | --- | -*- | -*- | -*- | -*- | --- |

PREFERENCES OF MALES **Table 2 (Continued)**

| RANK | FOOD NAME | ID | MEAN HEDONICS AND RANKS | | | | | | | | MAIN EFFECTS IN | | TUKEY'S TEST | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | WM | RANK | WF | RANK | BM | RANK | BF | RANK | RACE | SEX | WMWF | WMBM | WMBF | WFBM | WFBF | BMBF |
| ENTREE PREFERENCES | | | | | | | | | | | | | | | | | | |
| 52.0 | OMELET | 124 | 7.57 | 11.0 | 6.59 | 82.5 | 7.00 | 41.0 | 6.66 | 83.5 | .16 | --- | -*- | --- | -*- | --- | --- | --- |
| 162.5 | CREAMED GROUND BEEF | 125 | 6.00 | 108.5 | 4.78 | 172.0 | 5.42 | 161.0 | 3.71 | 195.0 | .24 | --- | --- | --- | -*- | --- | --- | -*- |
| 1.0 | GRILLED STEAK | 182 | 8.30 | 1.0 | 7.83 | 2.0 | 8.03 | 2.0 | 7.49 | 25.0 | .15 | --- | --- | --- | -*- | --- | --- | -*- |
| 122.0 | HOT TAMALES | 151 | 6.41 | 84.5 | 5.91 | 121.5 | 6.41 | 107.0 | 5.09 | 161.5 | .17 | --- | --- | --- | -*- | --- | --- | -*- |
| 166.0 | CORNED BEEF HASH | 35 | 5.73 | 138.0 | 4.67 | 176.0 | 5.43 | 151.5 | 4.97 | 169.0 | .16 | --- | -*- | --- | --- | --- | --- | --- |
| 125.0 | HOT PASTRAMI SANDWICH | 36 | 6.29 | 92.0 | 5.85 | 124.0 | 6.38 | 108.0 | 5.07 | 163.0 | .19 | --- | --- | --- | -*- | --- | --- | -*- |
| 113.0 | PORK AND BEANS | 66 | 6.70 | 83.5 | 5.71 | 134.0 | 6.50 | 84.0 | 5.84 | 137.0 | .20 | --- | -*- | --- | -*- | -*- | --- | -*- |



PREFERENCES OF MALES

| RANK | FOOD NAME | ID | MEAN HEDONICS AND RANKS | | | | | | | | MAIN EFFECTS IN | | TUKEY'S TEST | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | WM | RANK | WF | RANK | BM | RANK | BF | RANK | RACE | SEX | WMWF | WMBM | WMBF | WFBM | WFBF | BMBF |
| OTHER PREFERENCES | | | | | | | | | | | | | | | | | | |
| 178.0 | FISH CHOWDER | 34 | 5.17 | 157.0 | 3.95 | 188.0 | 5.69 | 149.0 | 4.15 | 188.0 | .26 | --- | --- | --- | --- | -*- | --- | -*- |
| 145.0 | BEER | 53 | 6.28 | 105.0 | 4.72 | 174.0 | 6.41 | 98.0 | 5.01 | 167.0 | .24 | --- | -*- | --- | -*- | -*- | --- | -*- |
| 104.0 | STRAWBERRY CHIFFON PIE | 67 | 6.83 | 58.0 | 5.67 | 133.0 | 6.83 | 72.0 | 5.41 | 146.5 | .27 | --- | -*- | --- | -*- | -*- | --- | -*- |
| 190.0 | APRICOT PIE | 15 | 4.59 | 176.5 | 4.00 | 186.5 | 5.39 | 162.5 | 3.65 | 198.0 | .23 | --- | --- | --- | --- | -*- | --- | -*- |

PREFERENCES OF BLACKS Table 2 (Continued)

| RANK | FOOD NAME | ID | MEAN HEDONICS AND RANKS | | | | | | | | MAIN EFFECTS IN | | TUKEY'S TEST | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | WM | RANK | WF | RANK | BM | RANK | BF | RANK | RACE | SEX | WMWF | WMBM | WMBF | WFBM | WFBF | BMBF |
| STARCH AND VEGETABLE PREFERENCES | | | | | | | | | | | | | | | | | | |
| 27.0 | POTATO SALAD | 112 | 6.97 | 62.0 | 6.96 | 49.0 | 7.24 | 23.0 | 7.66 | 16.0 | .14 | | --- | --- | --- | -*- | --- | -*- | --- |
| 84.0 | FRIED RICE | 12 | 6.07 | 120.0 | 6.50 | 90.5 | 6.62 | 74.5 | 7.27 | 35.5 | .17 | .14 | --- | --- | --- | -*- | --- | -*- | -*- |
| 107.0 | BUTTERED MIXED VEGETABLES | 77 | 6.06 | 121.5 | 5.96 | 129.0 | 6.62 | 74.5 | 6.49 | 96.5 | .12 | | --- | --- | --- | --- | --- | -*- | --- |
| 93.0 | COLLARD GREENS | 144 | 5.20 | 163.0 | 4.41 | 181.0 | 7.26 | 19.0 | 7.61 | 19.0 | .50 | | --- | -*- | -*- | -*- | -*- | -*- | --- |
| 131.0 | FRIED OKRA | 98 | 5.33 | 149.5 | 4.79 | 170.5 | 6.19 | 116.5 | 6.31 | 97.0 | .19 | | --- | --- | --- | --- | --- | -*- | --- |
| 133.0 | SPINACH | 57 | 5.31 | 157.0 | 5.71 | 134.0 | 6.10 | 113.5 | 6.43 | 104.0 | .14 | | --- | --- | --- | -*- | --- | --- | --- |
| 162.5 | LIMA BEANS | 19 | 5.24 | 160.0 | 4.33 | 185.0 | 5.66 | 141.0 | 5.87 | 135.5 | .19 | | --- | -*- | --- | --- | -*- | -*- | --- |
| 107.0 | BUTTERED MIXED VEGETABLES | 77 | 6.06 | 121.5 | 5.96 | 129.0 | 6.62 | 74.5 | 6.49 | 96.5 | .12 | | --- | --- | --- | --- | --- | --- | --- |
| 154.0 | BUTTERED PEAS & CARROTS | 141 | 5.20 | 163.0 | 4.92 | 170.0 | 5.98 | 123.5 | 5.72 | 143.0 | .15 | | --- | --- | --- | --- | -*- | --- | --- |
| 127.0 | CABBAGE | 55 | 4.91 | 175.0 | 5.06 | 164.0 | 6.43 | 95.0 | 7.42 | 29.0 | .37 | .11 | --- | --- | -*- | -*- | -*- | -*- | -*- |
| 189.0 | COOKED TURNIPS | 11 | 4.33 | 187.5 | 2.96 | 195.0 | 4.93 | 168.5 | 5.17 | 163.0 | .26 | | -*- | -*- | --- | --- | -*- | -*- | --- |
| 131.0 | COLE SLAW | 158 | 5.50 | 152.0 | 5.58 | 142.0 | 6.47 | 90.5 | 6.12 | 121.0 | .16 | | --- | --- | -*- | --- | -*- | --- | --- |
| 164.5 | CARROT, RAISIN & CELERY SALAD | 48 | 4.11 | 187.0 | 4.75 | 174.0 | 5.63 | 152.0 | 5.85 | 123.0 | .23 | | --- | --- | -*- | -*- | --- | --- | --- |



PREFERENCES OF BLACKS

| RANK | FOOD NAME | ID | MEAN HEDONICS AND RANKS | | | | | | | | MAIN EFFECTS IN | | TUKEY'S TEST | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | WM | RANK | WF | RANK | BM | RANK | BF | RANK | RACE | SEX | WMWF | WMBM | WMBF | WFBM | WFBF | BMBF |
| DESSERT PREFERENCES | | | | | | | | | | | | | | | | | | |
| 60.0 | POUND CAKE | 101 | 6.69 | 87.0 | 6.40 | 97.0 | 6.75 | 63.0 | 7.55 | 23.0 | .17 | | -*- | --- | --- | -*- | --- | -*- | -*- |
| 66.5 | SWEET POTATO PIE | 61 | 5.07 | 168.0 | 5.19 | 158.0 | 8.01 | 3.0 | 7.60 | 20.5 | .49 | | --- | --- | -*- | -*- | -*- | -*- | --- |

PREFERENCES OF FEMALES **Table 2 (Continued)**

| RANK | FOOD NAME | ID | MEAN HEDONICS AND RANKS | | | | | | | | MAIN EFFECTS IN | | TUKEY'S TEST | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | WM | RANK | WF | RANK | BM | RANK | BF | RANK | RACE | SEX | WMWF | WMBM | WMBF | WFBM | WFBF | BMBF |
| STARCH AND VEGETABLE PREFERENCES | | | | | | | | | | | | | | | | | | | |
| 28.5 | BAKED POTATOES | 152 | 7.14 | 47.5 | 7.56 | 10.5 | 6.38 | 102.0 | 7.72 | 15.0 | | .23 | -*- | --- | -*- | -*- | -*- | --- | -*- |
| 28.5 | BAKED MACARONI & CHEESE | 183 | 6.60 | 94.0 | 7.38 | 16.5 | 6.85 | 55.5 | 7.99 | 6.5 | | .23 | --- | -*- | --- | -*- | --- | --- | -*- |
| 84.0 | FRIED RICE | 12 | 6.07 | 120.0 | 6.50 | 90.5 | 6.62 | 74.5 | 7.27 | 35.5 | .17 | .14 | --- | --- | --- | -*- | --- | -*- | -*- |
| 104.0 | STEAMED RICE | 25 | 5.79 | 135.0 | 6.62 | 79.5 | 6.17 | 110.5 | 6.75 | 76.5 | | .17 | --- | -*- | --- | -*- | --- | --- | --- |
| 122.5 | BUTTERED NOODLES | 26 | 5.86 | 130.0 | 6.49 | 92.5 | 5.61 | 145.0 | 6.10 | 124.0 | | .13 | --- | --- | --- | --- | -*- | --- | --- |
| 126.0 | BROCCOLI | 163 | 5.75 | 137.0 | 6.24 | 109.5 | 5.41 | 154.5 | 6.47 | 99.5 | | .14 | --- | --- | --- | --- | --- | --- | -*- |
| 10.0 | BUTTERED WHOLE KERNEL CORN | 161 | 7.24 | 39.0 | 7.74 | 4.0 | 7.40 | 13.0 | 7.99 | 6.5 | | .17 | --- | --- | --- | -*- | --- | --- | -*- |
| 127.0 | CABBAGE | 55 | 4.91 | 175.0 | 5.06 | 164.0 | 6.43 | 95.0 | 7.42 | 29.0 | .37 | .11 | --- | --- | -*- | -*- | -*- | -*- | -*- |
| 178.0 | STEWED TOMATOES | 93 | 4.48 | 185.0 | 5.28 | 154.5 | 4.75 | 178.0 | 5.22 | 162.0 | | .12 | --- | --- | --- | --- | --- | --- | --- |



PREFERENCES OF FEMALES

| RANK | FOOD NAME | ID | MEAN HEDONICS AND RANKS | | | | | | | | MAIN EFFECTS IN | | TUKEY'S TEST | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | WM | RANK | WF | RANK | BM | RANK | BF | RANK | RACE | SEX | WMWF | WMBM | WMBF | WFBM | WFBF | BMBF |
| OTHER PREFERENCES | | | | | | | | | | | | | | | | | | | |
| 82.0 | DEVILED EGGS | 42 | 6.17 | 110.5 | 7.23 | 26.5 | 6.17 | 110.5 | 6.87 | 71.0 | | .19 | --- | -*- | --- | --- | -*- | --- | --- |
| 96.0 | VEGETABLE SOUP | 85 | 6.21 | 108.0 | 6.55 | 84.0 | 6.09 | 115.0 | 6.97 | 58.0 | | .14 | --- | --- | --- | -*- | --- | --- | -*- |
| 61.5 | TEA | 1 | 6.45 | 99.0 | 7.01 | 45.0 | 6.74 | 65.0 | 7.10 | 54.0 | | .12 | --- | --- | --- | -*- | --- | --- | --- |
| 4.5 | TOSSED GREEN SALAD | 39 | 7.41 | 25.0 | 7.99 | 1.0 | 7.05 | 38.0 | 8.07 | 4.0 | | .23 | --- | -*- | --- | -*- | -*- | --- | -*- |
| 9.0 | PEACHES (FRESH) | 52 | 7.34 | 30.5 | 7.66 | 9.0 | 7.30 | 15.5 | 8.09 | 2.5 | | .16 | --- | --- | --- | -*- | --- | --- | -*- |

Table 3

Food Preference Differences Associated With Race-Ethnic Background or Sex Group Membership for which the Strength of Association Was $\geq$ 0.20, the Group Preferring the Food the Most, and the Corresponding Rank Order of the Food

Preference Differences Associated with Race-Ethnic Background

| ID | Food Name | Strength of Association (Eta) $\geq$ 0.20 | Food Preferred More by * | As Ranked by the Group Preferring the Food |
|---|---|---|---|---|
| 45 | Fried Chicken | 0.22 | B | 6.25 |
| 137 | Barbecued Spareribs | 0.21 | B | 3.75 |
| 191 | Lasagna | 0.21 | W | 15.75 |
| 154 | Cornbread | 0.30 | B | 10.0 |
| 2 | Roast Turkey | 0.21 | W | 25.75 |
| 194 | Brownies | 0.22 | W | 24.5 |
| 61 | Sweet Potato Pie | 0.49 | B | 11.75 |
| 185 | Fruit Cocktail (Canned) | 0.22 | B | 33.5 |
| 91 | Peaches (Canned) | 0.20 | B | 74.5 |
| 144 | Collard Greens | 0.50 | B | 19.0 |
| 164 | Pineapple Juice | 0.22 | B | 62.75 |
| 83 | Grapefruit Half (Fresh) | 0.20 | B | 70.5 |
| 122 | Chocolate Pudding | 0.20 | W | 86.75 |
| 196 | Grits | 0.30 | B | 69.5 |
| 55 | Cabbage | 0.37 | B | 62.0 |
| 142 | Pork Hocks | 0.31 | B | 113.25 |
| 30 | Chitterlings | 0.38 | B | 107.0 |
| 48 | Carrot, Raisin, & Celery Salad | 0.23 | B | 137.5 |
| 47 | Lentils | 0.31 | W | 121.75 |
| 8 | Braised Liver with Onions | 0.26 | B | 131.25 |
| 168 | Cranberry Juice | 0.20 | B | 149.25 |
| 41 | Baked Yellow Squash | 0.21 | W | 145.0 |
| 5 | Boiled Pig's Feet | 0.49 | B | 127.5 |
| 11 | Cooked Turnips | 0.26 | B | 165.75 |
| 167 | Stewed Prunes (Canned) | 0.41 | B | 149.0 |
| 192 | Prune Juice | 0.29 | B | 176.5 |

Table 3 (continued)

Preference Differences Associated with Sex-Group Membership

| ID | Food Name | Strength of Association (Eta) ⩾ 0.20 | Food Preferred More by * | As Ranked by the Group Preferring the Food |
|---|---|---|---|---|
| 39 | Tossed Green Salads | 0.23 | F | 2.5 |
| 152 | Baked Potatoes | 0.23 | F | 12.75 |
| 183 | Baked Macaroni and Cheese | 0.23 | F | 11.5 |
| 67 | Strawberry Chiffon Pie | 0.27 | M | 65.0 |
| 66 | Pork and Beans | 0.20 | M | 83.75 |
| 53 | Beer | 0.24 | M | 101.5 |
| 125 | Creamed Ground Beef | 0.24 | M | 134.75 |
| 34 | Fish Chowder | 0.26 | M | 153.0 |
| 15 | Apricot Pie | 0.23 | M | 169.5 |

*Letters indicate either White (W) or Black (B), or either Male (M) or Female (F).

## Table 4

Presented in Table 4 are the 31 foods judged to contain high amounts of fat. Values in the two columns headed by **Main Effects** are eta values and indicate a significant preference difference due to either race-ethnic background or sex group membership. Letters in these columns indicate by which group, either white (W) or black (B) or male (M) or female (F), the food is preferred the most. Values in the column headed by **Interaction** are levels of significance, and letters in this column indicate by which group, either WM, WF, BM, or BF, the food is preferred the most.

## Table 4

### Results of Analysis of Variance for 36 Foods Containing Fat

| ID | Food Name | Main Effects | | Interaction |
|---|---|---|---|---|
| | | Race | Sex | |
| 17 | Sausage Links | | | |
| 23 | Ice Cream | | | |
| 26 | Buttered Noodles | | 0.13F | |
| 28 | Hot Fudge Sundae | 0.16W | | |
| 30 | Chitterlings | 0.38B | | |
| 33 | Hamburger | | | 0.029WM |
| 36 | Hot Pastrami Sandwich | | 0.19M | |
| 45 | Fried Chicken | 0.22B | | |
| 62 | Buttered Carrots | | | |
| 65 | Fried Clams | | | |
| 77 | Buttered Mixed Vegetables | 0.12B | | |
| 80 | Roast Pork | 0.13W | | |
| 84 | Fried Shrimp | 0.11*B | | 0.091BF |
| 98 | Fried Okra | 0.19B | | |
| 103 | Boston Cream Pie | | | |
| 106 | French Fried Onion Rings | | | |
| 110 | Milk Shake | | | |
| 112 | Potato Salad | 0.14B | | |
| 114 | Cheese Cake | | | |
| 126 | Milk | | | 0.085WM |
| 128 | Potato Chips | | | |
| 132 | Banana Split | | | 0.040WM |
| 137 | Barbecued Spareribs | 0.21B | | |
| 139 | Fried Eggplant | | | |
| 141 | Buttered Peas and Carrots | 0.15B | | |
| 142 | Pork Hocks | 0.31B | | |
| 143 | French Fried Potatoes | | | 0.006WM |
| 144 | Collard Greens | 0.50B | | 0.060BF |
| 149 | Pork Hocks | | | |
| 154 | Corn Bread | 0.30B | | |
| 161 | Buttered Whole Kernel Corn | | 0.17F | |
| 165 | Fried Fish | | | |
| 179 | Buttered Zucchini Squash | | | |
| 187 | Buttered Cauliflower | | | |
| 190 | Bacon, Lettuce & Tomato Sandwich | 0.10*W | | |
| 193 | Doughnuts | 0.13W | | |

*Level of significance is $\leq 0.10$; all others, $\leq 0.05$.

Table 5

Mean Preference Ratings and Standard Deviations for 36 Fatty Foods

| | White Male | White Female | Black Male | Black Female |
|---|---|---|---|---|
| Means | 6.02 | 5.69 | 5.89 | 6.16 |
| Standard Deviations | 1.25 | 1.10 | 1.17 | 0.94 |
| Group Sizes | 70 | 70 | 70 | 70 |

higher preference for fatty foods than either BM or WF, and this was largely due to their preference for hamburgers, milk, banana splits, and French fried potatoes.

### Food Categories

Given in Table 6 are the results of the analyses of variance that were performed on average scores. The 193 foods were divided into 31 food groups, and the scores for the foods within each group were averaged. Thus a score for a subject for any one food category was the average of his scores on the individual food items making up the food category. The results of the analyses are pertinent to food preferences for food categories. These results are summarized in later tables.

### Discriminant Analyses

The results of a discriminant analysis performed on the four groups WM, WF, BM, and BF are given in Table 7. The averaged scores for the 31 food categories were entered into the analysis, and two highly significant functions were derived. The first and strongest discriminated between race-ethnic backgrounds, ($X^2$ (36) = 371.23, $p < 0.001$, r canonical = 0.52). The second discriminated between the sexes ($X^2$ (32) = 164.57, $p < 0.001$, r canonical = 0.43). One measure of the importance of a discriminant function is the canonical correlation which is interpreted much like eta; the canonical correlation squared is the proportion of variability in the discriminant function that can be explained by the groups. One measure of the importance of a food category as a discriminating variable is the standardized discriminant coefficient. The absolute value of the coefficient represents the relative contribution of the variable to the function in question. Of the foods that discriminated between white and black respondents and that are preferred by whites, the category stews and extended meats is the most important while soups, puddings and other desserts, fresh fruit, and cakes are all less important and make about the same contribution to the function. Of the foods preferred by blacks, the category breakfast cereals and pancakes is about three times as important as the next most important category, fruit drinks and iced tea, and of all the foods regardless of sign, makes the largest contribution to the function. The most important food category for discriminating between males and females is beer, which is preferred by males. Though less important, other food categories that are preferred by males are eggs, short order, and meats. The food category that makes the second greatest contribution is tossed green salads. Tossed green salads along with the less important foods, fruit drinks and iced tea and fresh fruit, are preferred more by females than males.

Significant discriminant functions were also obtained when the analysis was performed first, on the two groups white and black and, second, on the groups male and female, ($X^2$ (11) = 217.74, $p < 0.001$, r canonical = 0.54; $X^2$ (13) = 153.45, $p < 0.001$, r canonical = 0.44), for white and black respondents and males and females respectively). These results, presented in Table 8, are very similar to those obtained in the four-group analysis, as, for example, the function discriminating between white and black respondents was stronger than that for males and females, and the food categories that were found

## Table 6

Results of the analysis of variance performed on scores averaged within each of 31 food categories are given in Table 6. Values given in the columns headed with **Main Effects** are eta values and indicate a significance preference difference due to either race-ethnic background or sex group membership. Letters in these columns indicate by which group, either white (W) or black (B) or either male (M) or female (F), the food was preferred the most.

## Table 6

### Results of Analyses of Variance Performed on Scores Averaged within 31 Food Categories

| | | Means | | | | Group Sizes | | | | Main Effects | | Standard Deviations | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | WM | WF | BM | BF | WM | WF | BM | BF | Race-Ethnic Background | Sex Group Membership | WM | WF | BM | BF |
| 1 | Appetizers | 6.11 | 6.34 | 6.10 | 6.45 | 174 | 155 | 79 | 50 | | 0.09F* | 1.46 | 1.54 | 1.37 | 1.35 |
| 2 | Soups | 5.84 | 6.08 | 5.79 | 5.78 | 177 | 149 | 62 | 43 | | | 1.62 | 1.55 | 1.66 | 1.49 |
| 3 | Fruit and Vegetable Juices | 5.45 | 5.75 | 5.99 | 5.85 | 1.56 | 129 | 78 | 42 | 0.09B | | 1.82 | 1.73 | 1.33 | 1.72 |
| 4 | Fruit Drinks and Iced Tea | 6.96 | 7.10 | 7.48 | 7.72 | 219 | 203 | 127 | 75 | 0.15B | | 1.77 | 1.80 | 1.32 | 1.36 |
| 5 | Hot Beverages | 6.01 | 5.85 | 5.98 | 6.12 | 208 | 187 | 113 | 65 | | | 1.64 | 1.71 | 1.43 | 1.55 |
| 6 | Milk Products | 5.98 | 6.09 | 6.20 | 5.91 | 128 | 119 | 44 | 32 | | | 1.12 | 1.25 | 1.15 | .90 |
| 7 | Carbonated Beverages | 5.28 | 5.34 | 5.12 | 5.21 | 193 | 188 | 94 | 59 | | | 1.69 | 2.03 | 1.60 | 1.69 |
| 8 | Beer | 6.61 | 4.53 | 6.36 | 4.93 | 223 | 197 | 128 | 71 | | 0.31M | 2.86 | 3.09 | 2.51 | 3.15 |
| 9 | Hot Breads and Doughnuts | 6.65 | 6.68 | 6.88 | 6.97 | 198 | 187 | 107 | 63 | 0.08B | | 1.45 | 1.57 | 1.19 | 1.31 |
| 10 | Breakfast Cereals & Pancakes | 5.94 | 6.02 | 6.70 | 6.65 | 150 | 126 | 116 | 68 | 0.22B | | 1.50 | 1.66 | 1.36 | 1.42 |
| 11 | Eggs | 7.24 | 6.97 | 7.09 | 6.71 | 223 | 198 | 124 | 67 | | 0.08M | 1.86 | 1.96 | 1.54 | 2.06 |
| 12 | Breakfast Meats | 6.94 | 6.57 | 7.13 | 6.86 | 226 | 202 | 129 | 70 | | 0.10M | 1.57 | 1.98 | 1.61 | 1.56 |
| 13 | Fish and Sea Food | 6.63 | 6.49 | 6.81 | 7.05 | 174 | 156 | 82 | 52 | 0.10B | | 1.61 | 1.64 | 1.37 | 1.64 |
| 14 | Meats | 6.86 | 6.65 | 6.63 | 6.75 | 148 | 101 | 48 | 32 | | | 1.01 | 1.43 | 1.00 | .99 |
| 15 | Stews and Extended Meats | 6.58 | 6.38 | 6.39 | 6.10 | 146 | 105 | 47 | 24 | | | 1.29 | 1.49 | 1.00 | 1.41 |
| 16 | Short Order, Sandwiches | 6.84 | 6.57 | 6.82 | 6.75 | 147 | 93 | 60 | 36 | | | 1.18 | 1.48 | 1.05 | 1.17 |
| 17 | Potato & Potato Substitutes | 6.70 | 6.81 | 6.64 | 6.74 | 143 | 116 | 52 | 37 | | | 1.18 | 1.06 | .94 | .95 |
| 18 | Green Vegetables | 5.79 | 5.94 | 5.98 | 5.95 | 168 | 148 | 67 | 46 | | | 1.69 | 1.73 | 1.28 | 1.46 |
| 19 | Yellow Vegetables | 5.86 | 6.13 | 6.04 | 6.16 | 136 | 124 | 63 | 39 | | | 1.72 | 1.71 | 1.51 | 1.55 |
| 20 | Other Vegetables | 5.41 | 5.94 | 5.30 | 5.60 | 115 | 101 | 45 | 22 | | 0.14F | 1.79 | 1.79 | 1.75 | 1.74 |
| 21 | Fruit Salads | 5.65 | 5.77 | 5.52 | 5.58 | 195 | 169 | 85 | 57 | | | 1.80 | 1.94 | 1.77 | 2.24 |
| 22 | Vegetable Salads | 5.97 | 6.34 | 6.09 | 6.20 | 210 | 195 | 108 | 71 | | 0.08F* | 1.80 | 1.98 | 1.55 | 1.87 |
| 23 | Tossed Green Salads | 6.92 | 7.44 | 6.85 | 7.40 | 192 | 177 | 85 | 68 | | 0.18F | 1.52 | 1.34 | 1.57 | 1.15 |
| 24 | Fresh Fruit | 7.03 | 7.17 | 7.13 | 7.52 | 200 | 189 | 90 | 59 | 0.06B* | 0.07F* | 1.19 | 1.40 | 1.23 | 1.23 |
| 25 | Canned Fruits | 6.60 | 6.57 | 7.09 | 7.03 | 218 | 200 | 117 | 67 | 0.14B | | 1.60 | 1.64 | 1.44 | 1.24 |
| 26 | Cookies and Brownies | 6.50 | 6.83 | 6.47 | 6.40 | 195 | 181 | 105 | 60 | | | 1.64 | 1.56 | 1.28 | 1.43 |
| 27 | Cakes | 6.52 | 6.65 | 6.57 | 6.37 | 156 | 147 | 58 | 41 | | | 1.47 | 1.55 | 1.12 | 1.80 |
| 28 | Pies | 6.96 | 6.85 | 6.92 | 6.64 | 213 | 191 | 115 | 64 | | | 1.66 | 1.60 | 1.31 | 1.66 |
| 29 | Puddings and Other Desserts | 5.89 | 6.04 | 5.90 | 5.32 | 133 | 126 | 50 | 27 | | | 1.45 | 1.52 | 1.28 | 1.61 |
| 30 | Ice Cream and Sherbert | 7.14 | 6.92 | 7.11 | 7.08 | 208 | 190 | 98 | 59 | | | 1.49 | 1.64 | 1.28 | 1.45 |
| 31 | Snack Foods | 6.37 | 6.35 | 6.37 | 6.69 | 212 | 198 | 121 | 70 | | | 1.52 | 1.54 | 1.52 | 1.61 |

*Level of significance is $\leq 0.10$; all other, $\leq 0.05$.

Table 7

Food Categories, Standardized Discriminant Coefficients, and Group Sizes for the Discriminant Analysis Performed on the Averaged Preference Ratings of WM, WF, BM and BF

Function 1
(Race-Ethnic Background)

| ID | Foods Preferred by White Men (N=230) & Women (N=211) | Standardized Coefficient | ID | Foods Preffered by Black Men (N=135) and Women (N=77) | Standardized Coefficient |
|---|---|---|---|---|---|
| 2 | Soups | –0.24 | 4 | Fruit Drinks and Iced Tea | 0.23 |
| 11 | Eggs | –0.13 | 8 | Beer | 0.01 |
| 14 | Meats | –0.09 | 10 | Breakfast Cereals & Pancakes | 0.75 |
| 15 | Stews & Extended Meats | –0.31 | 16 | Short Order, Sandwiches | 0.17 |
| 24 | Fresh Fruit | –0.22 | 23 | Tossed Green Salads | 0.02 |
| 27 | Cakes | –0.21 | | | |
| 29 | Puddings & Other Desserts | –0.23 | | | |

Function 2
(Sex Group Membership)

| ID | Foods Preferred by White Men (N=230) & Black Men (N=135) | Standardized Coefficient | ID | Foods Preferred by White Women (N=211) & Black Women (N=77) | Standardized Coefficient |
|---|---|---|---|---|---|
| 8 | Beer | –0.62 | 2 | Soups | 0.05 |
| 10 | Breakfast Cereals & Pancakes | –0.02 | 4 | Fruit Drinks & Iced Tea | 0.26 |
| 11 | Eggs | –0.30 | 23 | Tossed Green Salads | 0.46 |
| 14 | Meats | –0.26 | 24 | Fresh Fruit | 0.24 |
| 15 | Stews & Extended Meats | –0.22 | 27 | Cakes | 0.19 |
| 16 | Short Order, Sandwiches | –0.29 | 29 | Puddings & Other Desserts | 0.03 |

Table 8

Food Categories, Standardized Discriminant Coefficients, and Group Sizes for the Discriminant Analysis Performed on the Averaged Preference Ratings of White and Black Respondents and on the Averaged Ratings of Males and Females.

Function for the Groups White and Black

| ID | Foods Preferred by Whites (N=441) | Standardized Coefficient | ID | Foods Preferred by Blacks (N=212) | Standardized Coefficient |
|---|---|---|---|---|---|
| 2 | Soups | –0.27 | 3 | Fruit & Vegetable Juices | 0.19 |
| 15 | Stews & Extended Meats | –0.34 | 4 | Fruit Drinks and Iced Tea | 0.23 |
| 21 | Fruit Salads | –0.15 | 10 | Breakfast Cereals & Pancakes | 0.70 |
| 24 | Fresh Fruit | –0.20 | 16 | Green Vegetables | 0.18 |
| 27 | Cakes | –0.18 | | | |
| 29 | Puddings & Other Desserts | –0.22 | | | |
| 30 | Ice Cream and Sherbert | –0.20 | | | |

Function for the Groups Male and Female

| ID | Foods Preferred by Males (N=403) | Standardized Coefficient | ID | Foods Preferred by Females (N=307) | Standardized Coefficient |
|---|---|---|---|---|---|
| 3 | Fruit & Vegetable Juices | 0.24 | 4 | Fruit Drinks and Iced Tea | –0.18 |
| 8 | Beer | 0.60 | 6 | Milk Products | –0.18 |
| 11 | Eggs | 0.25 | 7 | Carbonated Beverages | –0.17 |
| 12 | Breakfast Meats | 0.23 | 9 | Hot Breads and Doughnuts | –0.21 |
| 14 | Meats | 0.26 | 22 | Vegetable Salads | –0.20 |
| 16 | Short Order, Sandwiches | 0.25 | 23 | Tossed Green Salads | –0.42 |
| | | | 24 | Fresh Fruit | –0.19 |

to discriminate between white and black respondents and males and females as well as their relative importance tended to be the same.

### Number of Differences Attributable to a Factor

Data from Tables 2 to 6 are summarized in Tables 9 and 10. Given in Table 9 are the number and percent of preference differences that were due either to race-ethnic background or sex group membership. Preference differences were found for 44.6% of the 193 foods, and 61 (70.9%) of the differences were associated with race-ethnic background, and 25 (29.1%) were associated with sex group membership. Note that a greater number of preference differences were due to race than sex in the case of fatty foods as well as nonfatty foods and that the difference was greater for fatty foods than nonfatty foods. Avowed food preference differences did exist among the four groups, and there were more differences associated with race-ethnic background than sex group membership.

### Food Preference Percentages by Group

The percent of foods preferred more by white respondents than black respondents and the percent preferred more by black respondents than by white is given in Table 10. This table is addressed to the question: Did one group prefer more a greater number of foods than another? As indicated, there were 61 preference differences associated with race-ethnic background, and 62.3% of the 61 foods were preferred more by black respondents than by white, while 37.7% of the foods were preferred more by white respondents than black. Notice that a greater number of the foods were preferred more by blacks than whites in the instance of fatty foods and nonfatty foods, and that the difference between the number of foods preferred more by blacks and the number of foods preferred more by whites is greater in the instance of fatty foods. Also note that all 6 of the food categories for which significant preference differences were obtained were preferred more by black respondents. Black respondents indicated a greater preference for more foods than did the white respondents.

No clear difference emerged between males and females. Though females tended to prefer more a greater number of individual food items, males indicated a greater preference for 3 food categories, while females indicated a greater preference for 2.

### Preferences for Food Categories

Information taken from Tables 2 to 8 is summarized in Table 11. The table is intended to indicate those food categories, as opposed to individual food items, that are preferred more by one group than by another. Results of the analyses of variance performed on ratings of individual food items is given in the first, second, and fourth columns. Note that the results given in Table 2 and that are summarized in the second column of Table 11 were based on group sizes that were approximately equal. An analysis of variance was also performed on the responses of all the respondents who participated in the study. The results of this analysis are summarized in the first column of Table 11.

Table 9

**The Number and Percent of Significant Preference Differences Associated with Either Race-Ethnic Background or Sex Group Membership for All Foods, Fatty Foods, Non-Fatty Foods, and Food Categories**

| | | All Foods | Fatty Foods | Non-Fatty Foods | Food Categories |
|---|---|---|---|---|---|
| Significant Differences Associated With Race-Ethnic Background | Number | 61 | 13 | 48 | 6 |
| | Percent | 70.9 | 81.2 | 68.6 | 54.5 |
| Significant Differences Associated with Sex Group Membership | Number | 25 | 3 | 22 | 5 |
| | Percent | 29.1 | 18.8 | 31.4 | 45.4 |
| Total Number of Significant Differences | | 86 | 16 | 70 | 11 |
| Total Percent | | 100.0 | 100.0 | 100.0 | 100.0 |

Table 10

**The Number and Percent of Foods Preferred More by Either White or Black Respondents or Male or Female Respondents for All Foods, Fatty Foods, Non-Fatty Foods, and Food Categories***

| | All Foods for Which Differences Were Significant | Fatty Foods for Which Differences Were Significant | Non-Fatty Foods for Which Differences Were Significant | Food Categories for Which Differences Were Significant |
|---|---|---|---|---|
| **Foods Preferred More by White Respondents** | | | | |
| Number of Foods | 23 | 3 | 20 | 0 |
| Percent of Total Number of Foods | 37.7 | 23.1 | 41.7 | 0.0 |
| **Foods Preferred More by Black Respondents** | | | | |
| Number of Foods | 38 | 10 | 28 | 6 |
| Percent of Total Number of Foods | 62.3 | 76.9 | 58.3 | 100.0 |
| Total Number of Foods | 61 | 13 | 28 | 6 |
| Total Percent | 100.0 | 100.0 | 100.0 | 100.0 |
| **Foods Preferred More by Males** | | | | |
| Number of Foods | 11 | 1 | 10 | 3 |
| Percent of Total Number of Foods | 44.0 | 33.3 | 45.4 | 60.0 |
| **Foods Preferred More by Females** | | | | |
| Number of Foods | 14 | 2 | 12 | 2 |
| Percent of Total Number of Foods | 56.0 | 66.6 | 54.6 | 40.0 |
| Total Number of Foods | 25 | 3 | 22 | 5 |
| Total Percent | 100.0 | 100.0 | 100.0 | 100.0 |

*All preference differences significant at or below the 0.05 level.

## Table 11

Given in Table 11 are preference differences for food categories as determined by analyses of variance for individual food items and food categories and as determined by discriminant analyses. Presented in the first four columns are results of the analyses of variance. Asterisks in either of the first two columns indicate that more foods were preferred more by one group than by another as determined, respectively, by either the analyses of variance based on all respondents or on approximately equal group sizes. An asterisk in the third column reflects a preference difference for a food category as indicated by the analysis of variance performed on hedonic ratings averaged within the food category. An asterisk in the fourth column indicates that the strength of relationship between one of the factors, either race-ethnic background or sex-group membership, and ratings for at least one food within a food category was 0.20 or greater. Finally, an asterisk in one of the last three columns indicates a greater preference was exhibited by one group than by another for a food category as indicated by one of three discriminant analyses.

Table 11

Preference Differences for Food Categories as Determined by Analyses of Variance for Individual Food Items and Food Categories and Discriminant Analyses

| | | Analyses of Variance | | | | Discriminant Analyses | | |
|---|---|---|---|---|---|---|---|---|
| | | More Foods Within A Category Were Preferred More by One Group Than Another | | | | Food Categories That Discriminated Among Or Between Groups | | |
| ID | | All Respondents | Approx. Equal Groups | Scores Averaged Within 31 Food Categories | Strength of Relationship For At Least One Food In Equal Groups Analysis ⩾ 0.20 | All Groups | Two Groups Whites & Blacks | Two Groups Males & Females |
| | **Foods Preferred By Whites** | | | | | | | |
| 2 | Soups | * | * | | | * | * | |
| 15 | Stews & Extended Meats | * | * | | * | * | * | |
| 29 | Puddings & Other Desserts | * | * | | * | * | * | |
| | **Foods Preferred By Blacks** | | | | | | | |
| 3 | Fruit & Veg. Juices | * | * | * | * | | * | |
| 4 | Fruit Drinks & Iced Tea | * | * | * | | * | * | |
| 9 | Hot Breads & Doughnuts | * | * | * | * | | | |
| 10 | Breakfast Cereals & Pancakes | * | * | * | * | * | * | |
| 18 | Green Vegetables | * | * | * | | | * | |
| 24 | Fresh Fruit | * | * | * | * | | | |
| 25 | Canned Fruit | * | * | * | * | | | |

Table 11 (continued)

| ID | | Analyses of Variance: More Foods Within A Category Were Preferred More by One Group Than Another — All Respondents | Analyses of Variance: More Foods Within A Category Were Preferred More by One Group Than Another — Approx. Equal Groups | Analyses of Variance: Scores Averaged Within 31 Food Categories | Analyses of Variance: Strength of Relationship For At Least One Food In Equal Groups Analysis ⩾ 0.20 | Discriminant Analyses: Food Categories That Discriminated Among Or Between Groups — All Groups | Discriminant Analyses: Food Categories That Discriminated Among Or Between Groups — Two Groups Whites & Blacks | Discriminant Analyses: Food Categories That Discriminated Among Or Between Groups — Two Groups Males & Females |
|---|---|---|---|---|---|---|---|---|
| | **Foods Preferred By Males** | | | | | | | |
| 8 | Beer | * | * | * | * | * | | * |
| 11 | Eggs | * | * | * | | * | | * |
| 12 | Breakfast Meats | * | * | * | * | | | * |
| 14 | Meats | * | * | | | * | | * |
| 15 | Stews & Extended Meats | | * | | | * | | |
| 16 | Short Order, Sandwiches | * | * | | | * | | * |
| 28 | Pies | * | * | | * | | | |
| | **Foods Preferred By Females** | | | | | | | |
| 1 | Appetizers | * | * | * | | | | |
| 17 | Potato & Potato Substitutes | * | * | | * | | | |
| 18 | Green Vegetables | * | * | | | | | |
| 20 | Other Vegetables | * | * | * | | | | |
| 22 | Vegetables Salads | * | | * | | | | * |
| 23 | Tossed Green Salads | * | * | * | * | * | | * |
| 24 | Fresh Fruit | * | * | * | | * | | * |

An asterisk in the first column of the table indicates that there was a difference between the number of foods preferred more by one group and the number of foods preferred more by another group as indicated by the analysis using all respondents. Differences ranged between one and five foods. Similarly, an asterisk in the second column indicates more foods were preferred more by one group than another as indicated by the analysis using approximately equal group sizes. In the analysis using all respondents, for example, the difference between the number of soups (first row) preferred more by white respondents and the number of soups preferred more by black respondents was 3, suggesting that the white respondents preferred a greater variety of soups than black respondents. Asterisks in the third column indicate significant preference differences existed between groups for food categories as indicated by the analyses of variance performed on scores averaged within the 31 food categories. The first asterisk in column three, for example, indicated that on the average black respondents tended to prefer fruit and vegetable juices more than white respondents. An asterisk in the fourth column indicates that for the analysis of variance using approximately equal group sizes, the strength of relationship between one of the two factors and ratings for at least one food within a category was at least 0.20. The asterisks in the last three columns indicate those food categories that functioned to discriminate between or among groups. Reported in the first of the last three columns are results from the four-group analysis; in the second, are results from the white and black analysis; and results from the male and female analysis are in the last column. The first asterisks in the fifth and sixth columns, for example, indicate that white respondents preferred soups more than black respondents.

In all, Table 11 provides seven indices of group preference for food categories, and we reasoned that the greater the agreement that was obtained across the several analyses within a particular food category, the more likely that a food category was preferred more by one group than another. We can, for example, be more confident in the statement that males more than females preferred beer than in the statement males more than females preferred stews and extended meats. Noting that the strength of the relationships between a factor and our measures of preferences for food groups varied with the food group, we found that while white respondents seemed to have preferred soups, stews, and puddings, black respondents preferred fruit drinks and juices, though not tomato juice, hot breads, cereals, some vegetables, and fresh fruit and canned fruits. Males were found to have preferred beer, eggs, meats, and pies while women were found to have preferred appetizers, potatoes, vegetables, salads, and fruit.

### Styles of Cooking

From among 18 types of specialty foods, or types of cooking, respondents were asked to select the three they liked best. The rank order of the specialty foods by percent of total number of selections for the four groups and all respondents is given in Table 12. Among the specialty foods that were selected as being liked the best, WM and WF selected more often than did BM and BF Italian food ($X^2$ (3) = 59.18, $p < 0.001$, $\eta = 0.25$), general American style food ($X^2$ (3) = 71.68, $p < 0.001$, $\eta = 0.30$), and Mexican food ($X^2$ (3) = 20.96, $p = 0.001$, $\eta = 0.15$). In contrast, BM and BF selected soul food

Table 12

Rank Order of 18 Specialty Foods by Percent of Total Number of Selections Per All Respondents WM, WF, BM, and BF

All Respondents

| Rank | Specialty Food | Percent of Total No. of Selections | Number of Selections |
|---|---|---|---|
| 1.5 | General American Style | 15.2 | 295 |
| 1.5 | Sea Food | 15.2 | 295 |
| 3 | Italian | 12.2 | 237 |
| 4 | Mexican | 10.9 | 211 |
| 5 | Soul | 9.3 | 181 |
| 6 | Fast Foods | 8.6 | 166 |
| 7 | Chinese | 8.4 | 164 |
| 8 | Southern | 5.7 | 110 |
| 9 | Natural Foods | 3.5 | 68 |
| 10 | German | 2.1 | 41 |
| 11 | Japanese | 1.7 | 33 |
| 12 | Vegetarian | 1.6 | 30 |
| 13 | French | 1.4 | 28 |
| 14 | Spanish | 1.3 | 26 |
| 15.5 | Jewish | 0.8 | 16 |
| 15.5 | Other | 0.8 | 16 |
| 17 | Polish Eastern European | 0.7 | 14 |
| 18 | Greek | 0.5 | 9 |

Table 12 (continued)

White Males

| Rank | Specialty Food | Percent of Total No. of Selections | Number of Selections |
|---|---|---|---|
| 1 | General American Style | 19.6 | 136 |
| 2 | Italian | 14.7 | 102 |
| 3 | Sea Food | 14.5 | 101 |
| 4 | Mexican | 12.5 | 87 |
| 5 | Fast Foods | 8.2 | 57 |
| 6 | Chinese | 6.8 | 47 |
| 7 | Southern | 5.6 | 39 |
| 8 | Natural Foods | 3.7 | 26 |
| 9.5 | French | 2.7 | 19 |
| 9.5 | German | 2.7 | 19 |
| 11.5 | Japanese | 1.7 | 12 |
| 11.5 | Spanish | 1.7 | 12 |
| 13 | Polish Eastern European | 1.2 | 8 |
| 14.5 | Vegetarian | 1.0 | 7 |
| 14.5 | Jewish | 1.0 | 7 |
| 16 | Greek | 0.9 | 6 |
| 17.5 | Soul | 0.7 | 5 |
| 17.5 | Other | 0.7 | 5 |

White Females

| Rank | Specialty Food | Percent of Total No. of Selections | Number of Selections |
|---|---|---|---|
| 1 | General American Style | 18.4 | 113 |
| 2 | Italian | 16.6 | 102 |
| 3 | Sea Food | 15.5 | 95 |
| 4 | Mexican | 13.2 | 81 |
| 5 | Fast Foods | 8.8 | 54 |
| 6 | Chinese | 8.5 | 52 |
| 7.5 | Southern | 3.3 | 20 |
| 7.5 | Natural Foods | 3.3 | 20 |
| 9 | German | 2.9 | 18 |
| 10 | Vegetarian | 2.6 | 16 |
| 11 | Spanish | 1.5 | 9 |
| 12.5 | Japanese | 1.3 | 8 |
| 12.5 | Soul | 1.3 | 8 |
| 15 | French | 0.6 | 4 |
| 15 | Jewish | 0.6 | 4 |
| 15 | Polish Eastern European | 0.6 | 4 |
| 17.5 | Greek | 0.5 | 3 |
| 17.5 | Other | 0.5 | 3 |

Table 12 (continued)

Black Males

| Rank | Specialty Food | Percent of Total No. of Selections | Number of Selections |
|---|---|---|---|
| 1 | Soul | 29.2 | 114 |
| 2 | Sea Food | 14.3 | 56 |
| 3 | Fast Foods | 9.5 | 37 |
| 4 | Southern | 9.0 | 35 |
| 5 | Chinese | 7.9 | 31 |
| 6 | General American Style | 6.9 | 27 |
| 7 | Mexican | 6.6 | 26 |
| 8 | Italian | 8.8 | 22 |
| 9 | Natural Foods | 4.1 | 16 |
| 10 | Japanese | 2.6 | 5 |
| 11 | Other | 1.3 | 5 |
| 12 | Spanish | 1.0 | 4 |
| 14.5 | French | 0.5 | 2 |
| 14.5 | Vegetarian | 0.5 | 2 |
| 14.5 | German | 0.5 | 2 |
| 14.5 | Jewish | 0.5 | 2 |
| 17.5 | Polish Eastern European | 0.0 | 0 |
| 17.5 | Greek | 0.0 | 0 |

Black Females

| Rank | Specialty Food | Percent of Total No. of Selections | Number of Selections |
|---|---|---|---|
| 1 | Soul | 22.4 | 54 |
| 2 | Sea Food | 18.3 | 44 |
| 3 | Chinese | 14.1 | 34 |
| 4 | General American Style | 7.9 | 19 |
| 5 | Fast Foods | 7.5 | 18 |
| 6 | Mexican | 7.0 | 17 |
| 7 | Southern | 6.6 | 16 |
| 8 | Italian | 4.6 | 11 |
| 9 | Natural Foods | 2.5 | 6 |
| 10 | Vegetarian | 2.1 | 5 |
| 12.5 | French | 1.2 | 3 |
| 12.5 | Japanese | 1.2 | 3 |
| 12.5 | Other | 1.2 | 3 |
| 12.5 | Jewish | 1.2 | 3 |
| 15.5 | German | 0.8 | 2 |
| 15.5 | Polish Eastern European | 0.8 | 2 |
| 17 | Spanish | 0.4 | 1 |
| 18 | Greek | 0.0 | 0 |

more often than did WM and WF ($X^2$ (3) = 421.15, $p < 0.0001$, $\eta$ = 0.68), selected Southern food more often than did WF, and tended to select it more often than WM ($X^2$ (3) = 16.97, p = 0.0007, $\eta$ = 0.07). And BF selected Chinese food more often than any of the other three groups ($X^2$ (3) = 17.88, p = 0.0005, $\eta$ = 0.13). Sea food was ranked among the most 3 preferred foods by all groups.

**Suggested Menu Changes**

Respondents were also asked to indicate how the dining facility could alter their menu in order to aid in personal weight control programs. For each of seven types of food, as, for example, meats, respondents could suggest that more of the food should be served, that fewer foods of a kind should be served, that a greater variety of the food should be served, or that the quantity and variety was "OK as is." The percent of each of the groups who suggested each of the four kinds of changes is given in Table 13.

Regardless of race-ethnic background and sex group membership, respondents tended to more frequently request more meats and drinks, fewer vegetables, and different potatoes. Forty-eight percent of the WF and 39% of the BF suggested a greater variety of breads while the majority of WM and BM requested more bread ($X^2$ (9) = 21.98, p = 0.0089, $\eta$ = 0.05). The majority of WM, WF, and BF requested different desserts while BM tended to request more desserts ($X^2$ (9) = 29.32, p = 0.0006, $\eta$ = 0.17). Surprisingly, WF as well as WM tended to request fewer salads while the majority of BM and BF requested more salads; the overall chi square, however, was significant at the 0.0952 level ($X^2$ (9) = 14.85, $\eta$ = 0.10).

Almost without exception the menu was not regarded by the majority of respondents in any of the four groups as "OK as is"; across the seven food categories, the average percent of respondents who selected "OK as is" was 18.2.

**Prior Findings**

Provided in Tables 14 and 15 are the 29 foods that were listed in both the Meiselman (1977)[10] and the present study and for which Meiselman found significant preference differences. Values in the first two columns are mean hedonics for blacks and whites respectively as reported by Meiselman. Values in the second two columns are hedonics that were obtained in the present study. A value in the last column is the strength of association measure and indicates that the mean hedonics that were obtained in the present study were significantly different.

[10]See footnote 5.

Table 13

Percent of WM, WF, BM, and BF Who Suggested Each of Four Types of Menu Changes for Seven Types of Food*

| Food Type | Group | Types of Menu Changes: More | Fewer | Different | OK as is | N | Most Frequently Requested |
|---|---|---|---|---|---|---|---|
| Meats | WM | 50.6 | 3.7 | 42.0 | 3.7 | 81 | more |
| | WF | 54.1 | 0.0 | 38.8 | 7.1 | 98 | more |
| | BM | 46.4 | 5.4 | 41.1 | 7.1 | 56 | more |
| | BF | 52.9 | 0.0 | 38.2 | 8.8 | 34 | more |
| Vegetables | WM | 31.2 | 39.0 | 15.6 | 14.3 | 77 | fewer |
| | WF | 23.1 | 48.1 | 19.4 | 9.3 | 108 | fewer |
| | BM | 22.4 | 44.8 | 10.3 | 22.4 | 58 | fewer |
| | BF | 21.1 | 39.5 | 18.4 | 21.1 | 38 | fewer |
| Potatoes | WM | 24.7 | 8.6 | 35.8 | 30.9 | 81 | different |
| | WF | 20.4 | 3.1 | 55.1 | 21.4 | 98 | different |
| | BM | 19.6 | 7.1 | 50.0 | 23.2 | 56 | different |
| | BF | 21.6 | 5.4 | 48.6 | 24.3 | 37 | different |
| Breads | WM | 34.2 | 11.8 | 32.9 | 21.1 | 76 | more |
| | WF | 35.5 | 1.1 | 48.4 | 15.1 | 93 | different |
| | BM | 39.2 | 13.7 | 17.6 | 29.4 | 51 | more |
| | BF | 30.3 | 9.1 | 39.4 | 21.2 | 33 | different |
| Salads | WM | 39.2 | 41.8 | 10.1 | 8.9 | 79 | fewer |
| | WF | 24.3 | 45.0 | 22 5 | 8.1 | 111 | fewer |
| | BM | 47.3 | 32.7 | 12.7 | 7.3 | 55 | more |
| | BF | 34.3 | 31.4 | 25.7 | 8.6 | 35 | more |
| Desserts | WM | 34.6 | 6.4 | 38.5 | 20.5 | 78 | different |
| | WF | 22.2 | 1.0 | 41.4 | 35.4 | 99 | different |
| | BM | 39.6 | 18.9 | 24.5 | 17.0 | 53 | more |
| | BF | 26.5 | 14.7 | 32.4 | 26.5 | 34 | different |
| Drinks | WM | 51.7 | 15.0 | 13.3 | 20.0 | 60 | more |
| | WF | 31.0 | 23.8 | 14.3 | 31.0 | 54 | more/OK as is |
| | BM | 41.3 | 26.1 | 13.0 | 19.6 | 46 | more |
| | BF | 32.3 | 22.6 | 19.4 | 25.8 | 31 | more |

*Expected frequencies for some cells is less than 5.

## Table 14

## Food Preferences of Blacks

### Entree Preferences

| ID | | Previous Hedonics B | Previous Hedonics W | Present Hedonics B | Present Hedonics W | Strength of Association |
|---|---|---|---|---|---|---|
| 137 | Barbecued Spare Ribs | 7.65 | 6.68 | 8.01 | 7.21 | 0.21 |
| 5 | Boiled Pig's Feet | 6.64 | 3.49 | 6.36 | 2.86 | 0.49 |
| 8 | Braised Liver with Onions | 5.44 | 4.47 | 5.89 | 4.30 | 0.26 |
| 30 | Chitterlings | 7.13 | 3.59 | 6.28 | 3.52 | 0.38 |
| 165 | Fried Fish | 6.84 | 6.31 | 7.17 | 6.82 | |
| 31 | Pork Chop Suey | 6.26 | 5.25 | 5.93 | 5.50 | |
| 142 | Pork Hocks | 6.57 | 4.85 | 6.22 | 4.48 | 0.31 |
| 17 | Sausage Links | 7.07 | 6.68 | 6.82 | 6.76 | |
| 147 | Tuna Salad Sandwich | 6.72 | 6.36 | 7.06 | 6.56 | 0.12 |

### Vegetable and Starch Preferences

| ID | | Previous Hedonics B | Previous Hedonics W | Present Hedonics B | Present Hedonics W | Strength of Association |
|---|---|---|---|---|---|---|
| 183 | Baked Macaroni & Cheese | 6.94 | 6.46 | 7.43 | 6.98 | |
| 77 | Buttered Mixed Vegetables | 6.24 | 5.90 | 6.55 | 6.01 | 0.12 |
| 55 | Cabbage | 6.31 | 5.12 | 6.93 | 4.98 | 0.37 |
| 19 | Lima Beans | 5.81 | 4.72 | 5.77 | 4.78 | 0.19 |
| 48 | Carrot, Raisin & Celery Salad | 4.78 | 4.29 | 5.73 | 4.44 | 0.23 |
| 144 | Collard Greens | 7.17 | 4.81 | 7.44 | 4.84 | 0.50 |
| 12 | Fried Rice | 6.39 | 5.66 | 6.94 | 6.28 | 0.17 |
| 196 | Grits | 6.55 | 5.10 | 6.75 | 5.08 | 0.30 |
| 25 | Steamed Rice | 6.53 | 5.47 | 6.47 | 6.20 | |

### Dessert and Beverage Preferences

| ID | | Previous Hedonics B | Previous Hedonics W | Present Hedonics B | Present Hedonics W | Strength of Association |
|---|---|---|---|---|---|---|
| 172 | Raisin Pie | 4.89 | 4.42 | 4.46 | 4.91 | |
| 61 | Sweet Potato Pie | 7.36 | 4.53 | 7.80 | 5.12 | 0.49 |
| 96 | Lemonade | 7.21 | 6.73 | 7.76 | 7.24 | 0.16 |
| 164 | Pineapple Juice | 6.37 | 5.69 | 6.82 | 5.84 | 0.22 |
| 192 | Prune Juice | 4.59 | 3.97 | 4.53 | 3.03 | 0.29 |

Table 15

Food Preferences of Whites

| ID | | Previous Hedonics B | Previous Hedonics W | Present Hedonics B | Present Hedonics W | Strength of Association |
|---|---|---|---|---|---|---|
| 4 | Celery & Carrot Sticks | 5.01 | 5.80 | 5.94 | 6.18 | |
| 76 | Fresh Coffee | 5.60 | 6.57 | 4.83 | 5.32 | |
| 54 | Hashed Brown Potatoes | 6.59 | 7.16 | 7.08 | 7.24 | |
| 126 | Milk | 7.60 | 8.08 | 7.74 | 7.94 | |
| 178 | Tomato Juice | 4.97 | 5.85 | 4.93 | 5.77 | 0.15 |
| 39 | Tossed Green Salad | 6.51 | 7.15 | 8.37 | 7.70 | |

Of the foods preferred by blacks, statistical significance was obtained in both studies in 74% of the 23 instances. Over all foods, the directions of the differences between means agreed 93% of the time. In both studies, for example, blacks avowed a greater preference for a number of soul foods and green vegetables. Moreover, of the 29 foods for which Meiselman found differences, black respondents indicated a greater preference for 23 or 79% of the foods. In the present study, blacks indicated a greater preference for 62% of the foods. These results are consistent though their explanation is unclear.

Meiselman also found that the classes of cookies, cakes, and pies were preferred more by blacks than by whites. We did not find this. But in agreement with previous findings, we found that the classes of fish and fruit juices were preferred more by blacks than by whites, and that Italian and Mexican foods were preferred more by whites than blacks. A major difference between blacks and whites, reports Meiselman, were preferences for fruit flavored juices and drinks. He found 14 preference differences for fruit juices and drinks. In the present study, black respondents avowed a greater preference for four of the five fruit juices and for lemonade, the only fruit drink listed. These categories were also shown to discriminate between blacks and whites in several discriminant analyses.

Table 15 lists six food preferences of whites of which we were only able to duplicate one. White respondents reported a greater preference for tomato juice in both studies. But the direction of differences between means agreed in five of the cases, and in the instance of milk, white respondents more frequently selected milk during four of the nine meals studied and selected it in significantly greater quantities during three of the meals (chi square tests, $p \leq 0.05$)..

Several studies have reported finding male vs. female preference differences. Results tend to be consistent with the present data. Eppright (1950)[11] for example, reports that women as opposed to men rated vegetables and fruit higher while men rated milk higher. Kennedy (1958)[12] found that college women indicated stronger preferences for vegetables, and for a breakfast, a higher percentage of women than men requested fruit or fruit juice, and, for a noon meal, more women than men requested salads while more men than women requested meats. Einstein and Hornstein (1970)[13] report that college women indicated stronger preferences than did college men for vegetables and salads. The latter authors also report stronger female preferences for baked macaroni and cheese and tea.

[11] See footnote 6.

[12] See footnote 7.

[13] See footnote 8.

Leverton (1944)[14] reports that more women than men were "willing to eat often" fruit and vegetables and that more men than women were "willing to eat often" milk. Schuck (1961)[15] also found that more women than men were "willing to eat often" fruit and that more men than women were "willing to eat often" meat.

In an earlier study by Eppright (1946)[16] data is reported indicating that men tended to check as "liked" milk products and meats more often than women, and that women more often tended to check as "liked" vegetables and citrus fruits. Further, the percent of men who checked milk products and meats as "disliked" was smaller. Results were less clear for vegetables and fruits where more college women, though not adult women, than men indicated a dislike for "other vegetables" and fruits. These latter results, however, are not inconsistent with those of Wallen (1943),[17] Hall and Hall (1939),[18] and Smith, Powell, and Ross (1955)[19] who report that when respondents are asked to indicate dislikes, rather than likes, females report more food aversions than males. Only one author, Schuck (1961),[20] reports a positive measure, "willing to eat often," indicating that men prefer vegetables more than women. Huenemann, Shapiro, and Hampton (1968),[21] however, found that men ate more vegetables as well as fruits than women, and Knickrehm, Cotner, and Kendrick (1969)[22] failed to find any differences. These results have led some investigators to conclude that it is uncertain whether there are any clear food preference differences between the sexes (Bender, 1976).[23]

[14] R. M. Leverton. Freshman food likes. **Journal of Home Economics**, 1944, **36**, 589–590.

[15] C. Schuck. Food preferences of South Dakota college students. **Journal of the American Dietetic Association**, 1961, **39**, 595–597.

[16] E. S. Eppright. In Committee of Food Research, **Food Acceptance Research** (QMFCI manual 17–9), Washington, 1946, 83–97.

[17] R. Wallen. Sex differences in food aversions. **Journal of Applied Psychology**, 1943, **27**, 288–298.

[18] I. S. Hall and C. S. Hall. A study of disliked and unfamiliar foods. **Journal of the American Dietetic Association**, 1939, **15**, 540–548.

[19] W. Smith, E. Powell, and S. Ross. Manifest anxiety and food aversions. **Journal of Abnormal and Social Psychology**, 1955, **50**, 101–104.

[20] See footnote 15.

[21] R. Huenemann, L. Shapiro, M. Hampton, and B. Mitchell. Food and eating practices of teenagers. **Journal of the American Dietetic Association**, 1968, **53**, 17–24.

[22] M. Knickerman, C. Cotner, and J. Kendrick. Acceptance of menu items by college students. **Journal of the American Dietetic Assoc.**, 1969, **55**, 117–120.

[23] A. E. Bender. Food preferences of males and females. **Proceedings of the Nutrition Society**, 1976, **35**, 181–189.

Lautz, Carter, and Ferguson (1940)[24] report finding that men tended to select larger amounts of meats, eggs, and milk than women. Guild, Deethardt, and Rust (1972)[25] and Stasch, Johnson, and Spangler (1970)[26] also found that men consumed more milk than women. Finally, Smith, et al. (1955)[27] and Hall and Hall (1939)[28] report finding that a higher percentage of women than men dislike beer.

[24] A. Lautz, C. Carter and S. Ferguson. Meat, seafood, eggs, and milk in self-selected diets of college men and women. **Journal of Home Economics**, 1940, **32**, 615–616.

[25] L. Guild, D. Deethardt, and E. Rust. Nutrients in university food service meals. **Journal of the American Dietetic Association**, 1972, **61**, 38–41.

[26] A. R. Stasch, M. M. Johnson, and G. J. Spangler. Food practices and preferences of some college students. **Journal of the American Dietetic Association**, 1970, **57**, 523–527.

[27] See footnote 19.

[28] See footnote 18.

## Conclusions

1. Orange juice and milk were ranked among the 10 most preferred foods by all groups. Tossed green salad, buttered whole kernal corn, grilled steak, and fresh peaches were ranked among the 10 most preferred foods by at least three of the four groups. The food preferred most by females was tossed green salad. The most preferred food of WM was grilled steak; of BM, orange juice.

2. Some of the strongest food preference differences were for foods that can be called either soul foods or southern foods. Of these foods, barbecued spareribs, fried chicken, cornbread, sweet potato pie, and collard greens ranked among the 20 foods most preferred by black respondents. Strong preference differences between males and females were for tossed green salad, baked potatoes, and baked macaroni and cheese, all of which were high preference foods of women.

3. Black females indicated a greater preference for fatty foods than did white females. Though the difference was not significant, white males rated fatty foods higher than did WF or BM, and this reflected their preference for food items like hamburger, milk, banana splits, and french fried potatoes.

4. A large number of preference differences were found, and of these differences, a greater number was due to race-ethnic background than sex group membership. Preference differences were found for 86 (44.6%) of the 193 foods studied, and 61 or 70.9% of the differences were associated with race-ethnic background, and 25 or 29.1% were associated with sex group membership.

5. Black respondents expressed a greater preference for more foods than white respondents. Of the 61 foods for which preference difference were due to race-ethnic background, 62.3% of the foods were preferred more by blacks than by whites. Of the 6 food categories for which differences were found, all were preferred more by blacks than whites, and blacks expressed a greater preference for more fatty foods than did white respondents.

6. White respondents preferred soups, stews and extended meats, and puddings and other desserts more than did black respondents, and blacks preferred fruit drinks and fruit juices, hot breads, breakfast cereals, green vegetables, fresh fruits and canned fruits more than did white respondents. Food categories that most strongly discriminated between race-ethnic backgrounds were stews and extended meats, which were preferred by whites, and breakfast cereals, which were preferred by blacks.

7. Males preferred beer, eggs, breakfast meats, meats, stews and extended meats, short order, and pies more than did females; and females preferred appetizers, potato and potato substitutes, green vegetables, other vegetables, vegetable salads, tossed green salads, and fresh fruit more than did males. Food categories that most strongly discriminated sex group membership were beer, which was preferred by males, and tossed green salads which were preferred by females.

8. White respondents preferred American, Italian, and Mexican styles of cooking more than did black respondents, and blacks preferred soul and southern foods more than did white respondents. General American style cooking was the most preferred by whites while soul foods were the most preferred by blacks. Sea food was ranked among the most preferred kinds of food by all groups.

9. All respondents requested more meats and drinks, fewer vegetables and different potatoes. White respondents tended to request fewer salads, and black respondents tended to request more salads. The menu was never regarded by the majority of respondents as "OK as is."

10. The food preferences of blacks and whites for 29 foods tended to agree with prior findings. Major consistent findings were the higher preferences of blacks for soul food, green vegetables, and fruit drinks and juices.

11. The food preferences of men and women also tended to agree with prior findings. Results of several studies indicated that women preferred vegetables and fruits more than men, and that men preferred meat and beer more than did women.

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